

CLAIMS

What is claimed is:

1. A method for printing a substantially invisible, coordinate pattern
5 on a medium, the method comprising:
assigning a pattern to a medium, wherein the pattern defines coordinates of the
medium; and
applying a fixer to the medium in the pattern.

10 2. The method according to claim 1, further comprising:
designing a layout of a document;
preparing an image of the layout of the document for printing; and
applying ink to the medium to form the image.

15 3. The method according to claim 2, wherein the step of applying the
fixer to the medium is done before applying the ink to the medium.

4. The method according to claim 2, wherein the step of applying the
ink to the medium is done before applying the fixer to the medium.

20 5. The method according to claim 1, further comprising:
mixing an infrared marker or an ultraviolet marker with the fixer.

6. The method according to claim 1, wherein the fixer is capable of
25 fluorescing or acting as an attenuating filter of fluorescence when exposed to a
predetermined wavelength of electromagnetic radiation.

7. The method according to claim 2, further comprising:
30 assigning a 1-bit plane of data to the image, wherein the 1-bit plane of data
corresponds to the pattern.

8. The method according to claim 2, wherein preparing the image of the layout of the document for printing comprises configuring software associated with a computer to prepare the image of the layout of the document for printing.

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9. The method according to claim 2, wherein preparing the image of the layout of the document for printing comprises configuring firmware to prepare the image of the layout of the document for printing.

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10. A method for calculating a position of an object in relation to a medium, the method comprising:

applying a coordinate pattern to a medium, wherein the coordinate pattern comprises a fixer capable of fluorescing when subjected to a predetermined wavelength of electromagnetic radiation;

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projecting the predetermined wavelength onto the pattern;

detecting a presence or an absence of emittance from the fixer in the coordinate pattern on the medium excited by the wavelength; and

responsive to the presence or the absence of the emittance, calculating a position of the object in relation to the medium.

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11. The method according to claim 10, wherein calculating the position of the object in relation to the medium comprises calculating a position of a writing instrument in relation to the medium.

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12. The method according to claim 10, further comprising:

designing a layout of a document;

preparing an image of the document for printing; and

applying ink to the medium to form the image.

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13. The method according to claim 10, wherein projecting the predetermined wavelength of electromagnetic radiation onto the pattern comprises directing an ultraviolet or an infrared wavelength onto the pattern.

14. The method according to claim 10, wherein detecting the presence or the absence of the emittance from the fixer in the coordinate pattern comprises positioning a sensor in relation to the coordinate pattern such that the sensor collects the presence or the absence of the emittance from the coordinate pattern.

15. The method according to claim 10, further comprising:
writing on the medium with a writing instrument; and
electronically storing the position of the writing instrument in relation to the medium.

16. The method according to claim 15, wherein writing on the medium and electronically storing the position occur substantially simultaneously.

17. A medium comprising:
a substrate; and
a coordinate pattern applied to at least one side of the substrate, wherein the coordinate pattern comprises a means for fluorescing when subjected to a predetermined wavelength of electromagnetic radiation.

18. The medium of claim 17, wherein the coordinate pattern is a Cartesian coordinate pattern.

19. The medium of claim 17, wherein the means for fluorescing comprises fixer.

20. The medium of claim 17, wherein the means for fluorescing further comprises an infrared marker or an ultraviolet marker.

21. The medium of claim 17, further comprising an image printed on the at least one side of the substrate.

22. The medium of claim 21, wherein the coordinate pattern overlies the image.

23. The medium of claim 21, wherein the image overlies the coordinate pattern.

24. A system for forming a substantially invisible coordinate pattern on a medium, the system comprising:
an image-forming device comprising:

10 a first pen for applying visible ink to a medium;
a second pen for applying a fixer to the medium, wherein the fixer is applied in a coordinate pattern; and
a medium comprising the coordinate pattern.

15 25. The system of claim 24, wherein the fixer comprises an ultraviolet marker or an infrared marker.

26. The system of claim 24, further comprising:
an information recording device for calculating a position of an object in relation
20 to the coordinate pattern of the medium.

27. The system of claim 26, wherein the information recording device comprises:
a writing instrument for writing on the medium;
25 a source of electromagnetic radiation for illuminating the fixer; and
a sensor array for detecting a presence or an absence of emittance of the fixer.